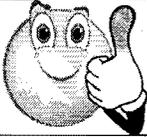
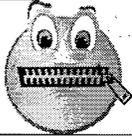


Unit 5 – Asexual and Sexual Reproduction

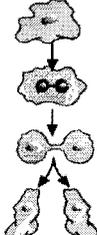
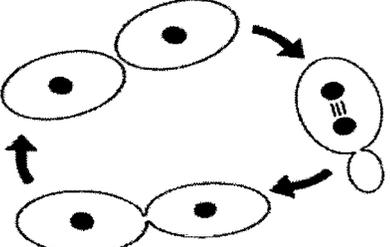
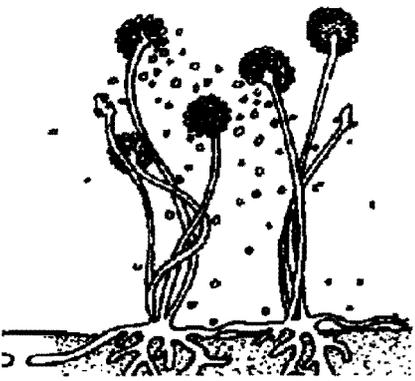
Topic			
Mitosis			
Meiosis			
Asexual Reproduction			

Mitosis

Stages	Picture	Definition
Interphase		
Prophase		
Metaphase		
Anaphase		
Telephase		

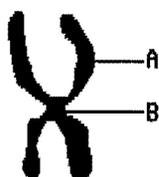
Cytokinesis: process of splitting the daughter cells apart; each daughter cell contains the exact same number & same quality of chromosomes

<p>Meiosis</p>	<p>Meiosis I</p> <p>Meiosis II</p>
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<p>Asexual Reproduction</p>	<p align="center">Some Methods of Asexual Reproduction</p> <p align="center"><i>Asexual reproduction is sometimes called cloning</i></p>	
	<p>Binary Fission --</p>	
	<p>Budding --</p>	
	<p>Sporulation</p>	

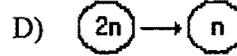
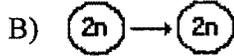
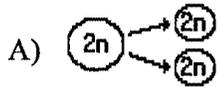
Name: _____

- The members of a certain species of grass in a lawn are genetically identical. The best explanation for this observation is that the species most probably reproduces
- A) by an asexual method
B) by identical sperm fertilizing the eggs
C) after pollination by a particular species of bee
D) after pollination by the wind
- 2) Normal mitotic cell division results in each daughter cell having
- A) the same number and kinds of chromosomes as the parent cell
B) half the number of chromosomes as the parent cell
C) twice the number of chromosomes as the parent cell
D) the same number but different kinds of chromosomes as the parent cell
- 3) Which usually occurs in the first meiotic division of a primary sex cell?
- A) fertilization
B) differentiation
C) crossing-over
D) polyploidy
- 4) Potatoes, strawberries, and seedless oranges are generally produced by an asexual means of reproduction known as
- A) vegetative propagation
B) sporulation
C) binary fission
D) budding
- 5) The process known as budding is characterized by
- A) a large number of nuclei
B) a decrease in chromosome number
C) the formation of a cell plate
D) an unequal distribution of cytoplasm
- 6) In most multicellular animals, meiotic cell division occurs in specialized organs known as
- A) kidneys
B) cytoplasmic organelles
C) gonads
D) gametes
- 7) Synapsis and disjunction are processes directly involved in
- A) fission
B) meiotic cell division
C) mitotic cell division
D) fertilization
- 8) Each of two daughter cells that result from the normal mitotic division of the original parent cell contains
- A) the same number of chromosomes and has genes identical to those of the parent cell
B) one-half of the number of chromosomes and has genes identical to those of the parent cell
C) the same number of chromosomes, but has genes different from those of the parent cell
D) one-half of the number of chromosomes, but has genes different from those of the parent cell
- 9) The diagram below represents a chromosome. Letters *A* and *B* indicate structures known as the

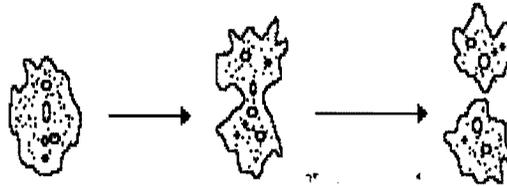


- A) spindle and cell plate
B) stamen and pistil
C) chromatid and centromere
D) centriole and centrosome

10) Which diagram most correctly represents the process of mitosis?



11) What specific type of reproduction is shown in the diagrams below of an amoeba?



A) meiosis

B) vegetative propagation

C) binary fission

D) budding

12) During the normal meiotic division of a diploid cell, the change in chromosome number that occurs is represented by

A) $n \rightarrow \frac{1}{2}n$

B) $2n \rightarrow n$

C) $4n \rightarrow n$

D) $2n \rightarrow 4n$

13) The formulation of a tetrad during meiosis occurs as a result of

A) synapsis

B) nondisjunction

C) cell plate formation

D) chromosomal alterations

14) The following list describes some of the events associated with normal cell division.

A — Nuclear membrane formation around each set of newly formed chromosomes

B — Separation of centromeres

C — Replication of each chromosome

D — Movement of single-stranded chromosomes to opposite ends of the spindle

What is the normal sequence in which these events occur?

A) $D \rightarrow C \rightarrow A \rightarrow B$

B) $C \rightarrow D \rightarrow B \rightarrow A$

C) $C \rightarrow B \rightarrow D \rightarrow A$

D) $A \rightarrow B \rightarrow C \rightarrow D$

15) Organisms that can reproduce by budding are

A) grasshopper and goldfish

B) bread mold and grasshopper

C) yeast and earthworm

D) yeast and hydra

16) In a species of corn, the diploid number of chromosomes is 20. What is the number of chromosomes found in each of the normal egg cells produced by this species?

A) 10

B) 40

C) 20

D) 5

17) Which event occurs in the cytoplasmic division of plant cells but *not* in the cytoplasmic division of animal cells?

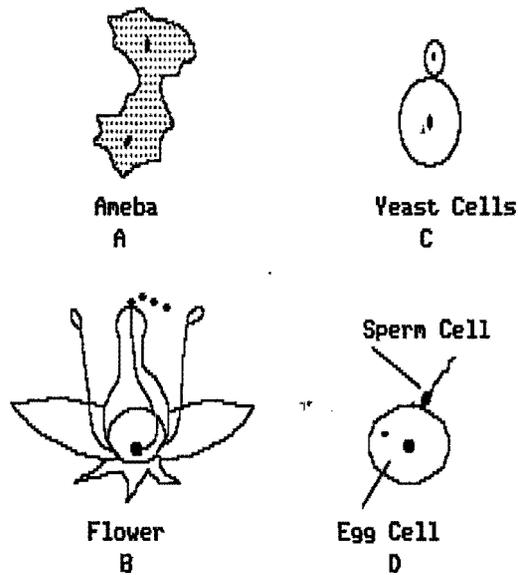
A) cell plate formation

B) centromere replication

C) centriole formation

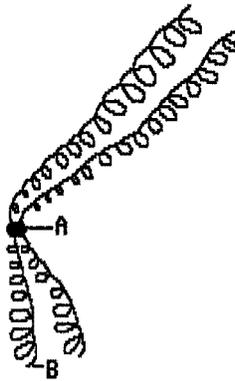
D) chromosome replication

- 18) The diagrams below represent various processes associated with reproduction.



Asexual reproduction is represented by

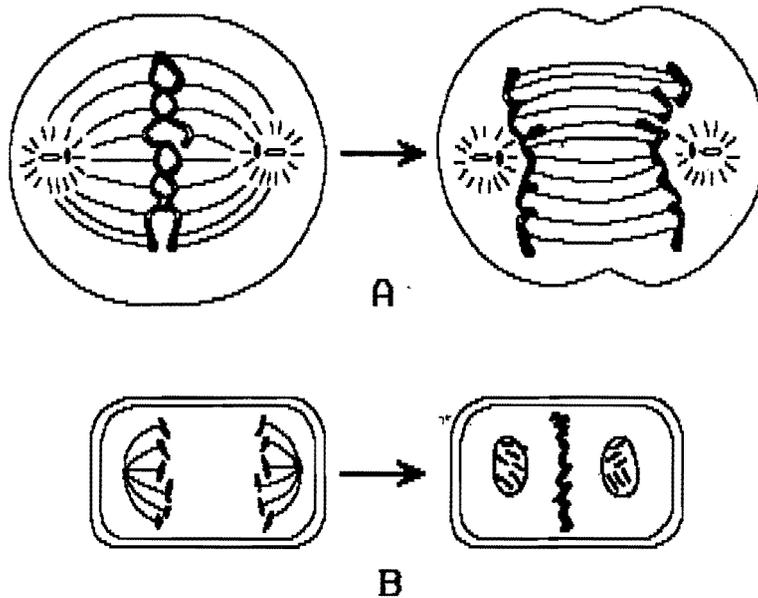
- A) *A* and *C* B) *B* and *D* C) *B*, only D) *A*, only
- 19) The diagram below represents a microscopic structure observed during the process of cell division.



Letter *A* indicates a

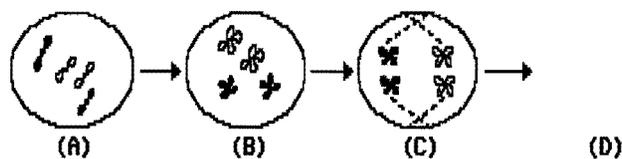
- A) centriole B) nucleolus C) centromere D) ribosome
- 20) During meiotic cell division, the process in which homologous pairs of chromosomes separate and move apart is known as
- A) binary fission C) internal fertilization
B) disjunction D) regeneration

- 21) The diagrams below represent two different cells undergoing mitotic cell division.



Which statement about these divisions is true?

- A) Division *A* could occur in a grasshopper and division *B* could occur in a maple tree.
 B) Both divisions could occur in a human.
 C) Division *A* could occur in a bean plant and division *B* could occur in a maple tree.
 D) Division *A* could occur in a grasshopper and division *B* could occur in a hydra.
- 22) Normally, a complete set of chromosomes ($2n$) is passed on to each daughter cell as a result of
 A) nondisjunction
 B) mitotic cell division
 C) meiotic cell division
 D) reduction division
- 23) One primary sex cell undergoing the process of oogenesis typically results in the production of
 A) three eggs and polar bodies
 B) one diploid ovum
 C) one egg and polar bodies
 D) four sperm cells
- 24) Structures that hold chromatids together in double-stranded chromosomes are known as
 A) spindle fibers
 B) polar bodies
 C) centromeres
 D) centrioles
- 25) The diagram below represents the sequence of events in a cell undergoing normal meiotic cell division.



Which diagram most likely represents stage *D* of this sequence?



- 26) Internal fertilization occurs in the reproductive cycle of which organism?
A) a snake B) an ameba C) a frog D) a paramecium
- 27) In animals, polar bodies are formed as a result of
A) meiotic cell division in females C) mitotic cell division in males
B) meiotic cell division in males D) mitotic cell division in females
- 28) In humans, which cell is produced most directly by mitotic cell division?
A) a skin cell B) a sperm cell C) a zygote D) an egg cell
- 29) Cancer is a disease characterized by the
A) unlimited production of abnormal gametes
B) limited production of normal zygotes
C) uncontrolled division of abnormal cells
D) uncontrolled replication and synopsis of chromosomes
- 30) Which factor would tend to restrict genetic variations within a species?
A) asexual methods of reproduction C) sexual methods of reproduction
B) gene mutations D) recombination of genes

- 1) A 2) A 3) C 4) A 5) D
C 7) B 8) A 9) C 10) A
11) C 12) B 13) A 14) C 15) D
16) A 17) A 18) A 19) C 20) B
21) A 22) B 23) C 24) C 25) B
26) A 27) A 28) A 29) C 30) A